

Amendments to the Claims:

Claims 1-107 (Cancelled).

108. (New) A fluidized-bed gasification and combustion furnace comprising:

- a gasification furnace having a furnace bottom at a lower part thereof and a fluidized bed including a weak fluidizing region;
- a combustion furnace having a furnace bottom at a lower part thereof and a fluidized bed including an intense fluidizing region;
- a partition wall dividing said gasification furnace from said combustion furnace so that said weak fluidizing region of said gasification furnace is adjacent to said intense fluidizing region of said combustion furnace;
- a first diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas at a low fluidizing velocity so as to thereby form said weak fluidizing region in said gasification furnace;
- a second diffusion device on said furnace bottom of said combustion furnace for ejecting a fluidizing gas at a high fluidizing velocity so as to thereby form said intense fluidizing region in said combustion furnace;
- an incombustible material discharging port between said furnace bottom of said gasification furnace and said furnace bottom of said combustion furnace for discharging incombustible material therethrough; and
- a lower opening in said partition wall for introducing a fluidized medium containing char into said combustion furnace from said gasification furnace, the char being produced in said gasification furnace and descending with a descending flow of said fluidized medium in said weak fluidizing region of said gasification furnace.

109. (New) The fluidized-bed gasification and combustion furnace of claim 108, further comprising a third diffusion device on said furnace bottom of said gasification furnace for

ejecting a fluidizing gas so as to thereby form an intense fluidizing region in said gasification furnace.

110. (New) The fluidized-bed gasification and combustion furnace of claim 108, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an upward flow of said fluidized medium in said fluidized bed of said gasification furnace.

111. (New) The fluidized-bed gasification and combustion furnace of claim 108, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas at a higher fluidizing velocity than the fluidizing gas ejected from said first diffusion device.

112. (New) A fluidized-bed gasification and combustion furnace comprising:
a gasification furnace having a furnace bottom and a fluidized bed including a weak fluidizing region;

a combustion furnace having a furnace bottom and a fluidized bed including an intense fluidizing region;

a partition wall dividing said gasification furnace from said combustion furnace so that said weak fluidizing region of said gasification furnace is adjacent to said intense fluidizing region of said combustion furnace;

a first diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form said weak fluidizing region in said gasification furnace;

a second diffusion device on said furnace bottom of said combustion furnace for ejecting a fluidizing gas so as to thereby form said intense fluidizing region in said combustion furnace;

an incombustible material discharging port between said furnace bottom of said gasification furnace and said furnace bottom of said combustion furnace for discharging incombustible material therethrough; and

a lower opening in said partition wall for introducing a fluidized medium into said combustion furnace from said gasification furnace.

113. (New) The fluidized-bed gasification and combustion furnace of claim 112, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an intense fluidizing region in said gasification furnace.

114. (New) The fluidized-bed gasification and combustion furnace of claim 112, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an upward flow of said fluidized medium in said fluidized bed of said gasification furnace.

115. (New) The fluidized-bed gasification and combustion furnace of claim 112, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas at a higher fluidizing velocity than the fluidizing gas ejected from said first diffusion device.

116. (New) A fluidized-bed gasification and combustion furnace comprising:
a gasification furnace having a furnace bottom;
a combustion furnace having a furnace bottom;
a first diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form a descending flow of a fluidized medium in a fluidized bed of said gasification furnace;
a second diffusion device on said furnace bottom of said combustion furnace for ejecting a fluidizing gas so as to thereby form an upward flow of a fluidized medium in a fluidized bed of said combustion furnace;

a partition wall dividing said gasification furnace from said combustion furnace so that said descending flow of said fluidized medium in said gasification furnace is adjacent to said upward flow of said fluidized medium in said combustion furnace;

an incombustible material discharging port between said furnace bottom of said gasification furnace and said furnace bottom of said combustion furnace for discharging incombustible material therethrough; and

a lower opening in said partition wall for introducing a fluidized medium into said combustion furnace from said gasification furnace.

117. (New) The fluidized-bed gasification and combustion furnace of claim 116, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an intense fluidizing region in said gasification furnace.

118. (New) The fluidized-bed gasification and combustion furnace of claim 116, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an upward flow of said fluidized medium in said fluidized bed of said gasification furnace.

119. (New) The fluidized-bed gasification and combustion furnace of claim 116, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas at a higher fluidizing velocity than the fluidizing gas ejected from said first diffusion device.

120. (New) A fluidized-bed gasification and combustion furnace comprising:
a gasification furnace having a furnace bottom and a fluidized bed including a weak fluidizing region;

a combustion furnace having a furnace bottom and a fluidized bed including an intense fluidizing region;

a partition wall dividing said gasification furnace from said combustion furnace so that said weak fluidizing region of said gasification furnace is adjacent to said intense fluidizing region of said combustion furnace;

a first diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas at a low fluidizing velocity;

a second diffusion device on said furnace bottom of said combustion furnace for ejecting a fluidizing gas at a high fluidizing velocity;

an incombustible material discharging port between said furnace bottom of said gasification furnace and said furnace bottom of said combustion furnace for discharging incombustible material therethrough; and

a lower opening in said partition wall for introducing a fluidized medium into said combustion furnace from said gasification furnace.

121. (New) The fluidized-bed gasification and combustion furnace of claim 120, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an intense fluidizing region in said gasification furnace.

122. (New) The fluidized-bed gasification and combustion furnace of claim 120, further comprising a third diffusion device on said furnace bottom of said gasification furnace for ejecting a fluidizing gas so as to thereby form an upward flow of said fluidized medium in said fluidized bed of said gasification furnace.

123. (New) The fluidized-bed gasification and combustion furnace of claim 120, further comprising a third diffusion device on said furnace bottom of said gasification furnace for

ejecting a fluidizing gas at a higher fluidizing velocity than the fluidizing gas ejected from said first diffusion device.

124. (New) A fluidized-bed gasification and combustion furnace comprising:
a gasification furnace having a furnace bottom at a lower part thereof;
a combustion furnace having a furnace bottom at a lower part thereof;
a partition wall dividing said gasification furnace from said combustion furnace;
a first diffusion device on said furnace bottom of said gasification furnace;
a second diffusion device on said furnace bottom of said combustion furnace;
a material supply port in said gasification furnace for supplying material to be pyrolyzed and gasified into a fluidized bed of said gasification furnace so as to produce a produced gas and char;
an incombustible material discharging port between said furnace bottom of said gasification furnace and said furnace bottom of said combustion furnace for discharging incombustible material therethrough; and
a lower opening in said partition wall for introducing a fluidized medium containing the char into said combustion furnace.

125. (New) The fluidized-bed gasification and combustion furnace of claim 124, wherein said gasification furnace is operable to pyrolyze and gasify material including combustible material and incombustible material.

126. (New) The fluidized-bed gasification and combustion furnace of claim 124, wherein said furnace bottom of said combustion furnace has a surface downwardly inclined toward said incombustible material discharging port.

127. (New) The fluidized-bed gasification and combustion furnace of claim 126, wherein said furnace bottom of said gasification furnace has a surface downwardly inclined toward said incombustible material discharging port.

128. (New) The fluidized-bed gasification and combustion furnace of claim 124, wherein at least one of said combustion furnace and said gasification furnace is shaped and arranged to generate an internally revolving flow.